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A NEW TOAD FROM WESTERN CHINA

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In identifying specimens of amphibians and reptiles from western China obtained for Field Museum by the late Floyd T. Smith, we find a very distinct new toad. We feel that the relations of the new form are best shown by placing it as a subspecies of the widespread common toad of Europe and Asia, *Bufo bufo*, but it is of more than usual interest for the remarkable secondary sex character of loose dorsal skin in the male. This character has been described by the junior author for the allied *Bufo bufo japonicus* of North China (Liu, 1936, p. 126). Our new name, *Bufo bufo wrighti*, appears as a nomen nudum in the paper on the vocal sac in the Salientia, also by the junior author (Liu, 1935, p. 30); our original description was drawn up in 1935.

Recent observations in the field by the junior author serve to distinguish the tadpole of our new form from that of *Bufo bufo gargarizans*, the common toad of the lower Yangtze Valley. The differences are shown in the accompanying figures.

Bufo bufo wrighti,¹ subsp. nov.

Type from Ho Ni Pa, thirty miles southeast of Moupin, Hsikang. No. 16829 Field Museum of Natural History. Adult male. Collected May, 1931, by Floyd T. Smith.

Diagnosis.—A large toad allied to *Bufo bufo*, agreeing with *Bufo bufo gargarizans* in having the top of the head smooth, and with *Bufo bufo japonicus* in having the head and jaw elongate; it differs from both in having longer legs, with toes much more fully webbed. Parotids parallel instead of divergent.

¹ Named for Dr. Albert Hazen Wright, Professor of Vertebrate Zoology at Cornell University, whom we hold in affectionate regard.

Description of type.—Head broader than long, snout pointed, with obtuse canthus rostralis; loreal region nearly vertical; nostrils separated by a distance equal to their distance from the eye; legs long; top of head smooth, flat; eyelids wrinkled but not tuberculate; tympanum small, oblique, just below the parotid gland; parotid glands elongate, wider anteriorly, not kidney-shaped; two very conspicuous post-rietal glands; dorsal surface covered with round,

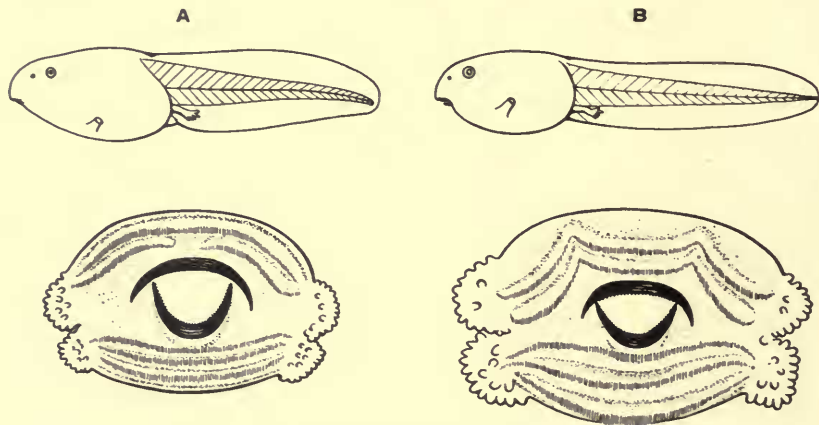


FIG. 16. A, Tadpole and tadpole mouth parts of *Bufo bufo gargarizans* Cantor. B, Tadpole and tadpole mouth parts of *Bufo bufo wrighti*, sp. nov.

smooth warts, relatively few in number; large irregular glands on the tibia; a large single gland on the upper surface of the tarsus; fingers free, slightly fringed, first and second equal; toes webbed to the tips except the fourth, which has the three terminal phalanges free but broadly fringed; inner metatarsal tubercle oval, outer round; no tarsal fold; skin of upper surface of body and thighs very loose; forearms much enlarged; belly pale, with indistinct black spots, back dark, without markings.

Measurements.—Type: body length 74; width of head at angle of mouth 29; hind limb 120; tibia 34. Allotype (Field Museum No. 16813): body 95; width of head 36.5; hind limb 128; tibia 37.

Notes on paratypes.—The paratypes available are three males, Field Museum Nos. 16827-8 and 16830, and one female, No. 16813, from Ho Ni Pa, and in addition a series of ten males and nineteen females from Tailing, sixty miles or more to the northwest of the type locality, Nos. 15209 and 15238. Female specimens have a firm dorsal skin, with smaller warts, and no distinct tarsal

gland. The ratio of the length of the leg to that of the body ranges from 1.40 to 1.62, averaging 1.48, in the males, and from 1.28 to 1.56, averaging 1.33, in the female specimens. This character accordingly overlaps the measurements of *Bufo bankorensis*, and without the clearly different shape of head and the curious loose skin characteristic of the males, we would hesitate to distinguish the present form. With these supporting characters, however, even the difference in leg length seems significant.

Tadpole.—Tail darker and its fin longer and relatively narrower than in *Bufo bufo gargarizans*. Mouth parts characterized by two complete and sharply angulate upper labial tooth rows. The lower of the two upper rows in *gargarizans* is interrupted. The tadpole of *Bufo bufo wrighti* figured comes from Moupin, Hsikang, and is in the collection of the junior author.

Remarks.—This form appears to be more closely allied to *Bufo bufo japonicus* of North China than to *Bufo bufo gargarizans*, whose range it adjoins. The senior author's unfortunate misidentification of the toads of the lower Yangtze Valley as *Bufo bankorensis* (Schmidt, 1926, p. 75, and 1927, p. 557) is partly cleared up by Pope (1931, p. 456); we differ from his list in that we distinguish the toads of North China from those of the central Chinese lowlands, and employ the earlier name *gargarizans* Cantor for *asiaticus* Steindachner.

Our arrangement of the subspecies of *Bufo bufo* in China is as follows:

- A. Top of head tuberculate in adult, leg-length in males 1.31 of body length, skin of breeding males loose (North China, Manchuria, Korea, and Japan).
Bufo bufo japonicus.
- AA. Top of head smooth.
- B. Legs very long, ratio to body length in males 1.48, head long, parotoids parallel, toes extensively webbed, skin of breeding males loose (Hsikang).
Bufo bufo wrighti.
- BB. Legs and head shorter, webs much less developed, skin of breeding males firm.
- C. Head large and broad; ratio of leg length to body length in males 1.44 (mountains of Formosa and Fukien) *Bufo bufo bankorensis*.
- CC. Head short and narrow, parotoids diverging, ratio of leg length to body length in males 1.39 (Yangtze Valley from Chusan Island to Szechwan) *Bufo bufo gargarizans*.

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